

## Optical Drive

### BACKGROUND OF THE INVENTION

#### (a) Field of the Invention

5 The invention relates to a compact disk player, and more particularly, to a compact disk player providing accommodation for a flash card reader.

#### (b) Description of the Prior Art

A structure of a common optical drive generally comprises a housing 10 and a compact disk drive, so as to form a so-called internally connected 5.25-inch optical drive as shown in FIG. 1. The housing includes a panel, which is provided with control switches electrically connected with the compact disk drive, and the control switches are operated for driving the compact disk drive in the housing. An ordinary panel is 14.8cm in 15 width, 4cm in height, and 16.5cm or 20.5cm in length. In fact, a thickness of the compact disk drive is merely a half of that of the panel. In other words, the optical drive occupies only a half of a volume of the housing, and remaining space of the housing is for accommodating 20 electric elements such as circuit boards and switches. However, these electric elements take up less than a half of the remaining space. It is

apparent from the above that current compact disk players have shortcomings as having excessive volumes and occupying large spaces. In addition, redundant volumes of housings further increase material and production costs.

5 Considering an internally connected 3.5-inch card reader generally comprising a housing and a flash card reader. The housing has a panel disposed with control switches electrically connected with the flash card reader, and the control switches are operated for driving the flash card reader in the housing. The panel is usually 10.1cm in width, 2.5cm in height, and 13cm in length. In fact, a total volume of the flash card reader and controller circuit boards thereof is far smaller than those of the panel and the housing. To be more exact, the total volume of the former only occupies a quarter of an internal volume of the housing. It is noted from the above that current internally connected 3.5-inch card readers have shortcomings as having excessive volumes and occupying large spaces. In addition, redundant volumes of housings further increase material and production costs.

Furthermore, consumers are obligated to purchase optical drives and card readers separately. Inconvenience regarding to purchasing and portability are caused, and money spent sums up to great amounts as

well. However, suppose the conventional compact disk player and card reader are simultaneously disposed in a computer host, insertion slots namely a 5.25-inch slot and a 3.5-inch slot become necessary preoccupied, and unreduced volume and weight of the host are yet 5 resulted.

## **SUMMARY OF THE INVENTION**

Therefore, in the view of the shortcomings of the prior art, the primary object of the invention is to provide an optical drive capable of accommodating a flash card reader, thereby effectively decreasing 10 materials required and lowering production cost thereof.

The secondary object of the invention is to provide a compact disk player combined with a compact flash drive, thereby reducing occupied space and thus cutting a volume of a computer host.

The other object of the invention is to provide an optical combined with 15 a flash card reader, thereby lowering purchasing expenses of consumers as well as offering easy portability.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 shows a conventional schematic view of a prior art.

FIG. 2 shows an elevational view of a preferred embodiment according 20 to the invention.

FIG. 3 shows a sectional schematic view of FIG. 1 along A-A.

## **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

To better understand the characteristics, functions and objects of the invention, detailed descriptions shall be given with the accompanying 5 drawings hereunder.

Referring to FIGS. 2 and 3, an optical drive according to the invention comprises a housing 10, a compact disk drive 20 and a compact flash drive 30.

The housing has an internal chamber 11 for accommodating the 10 compact disk drive 20 and the compact flash drive 30. The compact disk drive 20 is disposed at a top portion of the internal chamber 11, whereas the compact flash drive 30 is disposed below the compact disk drive 20 in the internal chamber 11 of the housing 10.

The housing 10 has a panel 40 provided with a plurality of apertures 15 41 and 43. The aperture 41 is for allowing a compact disk holder of the compact disk drive 20 for pass in and out. The aperture 43 is for uses of a device driving various MS / CF / MD / SD / MMC / SM / MD / XD / PCMCIA cards, and arrangements thereof (32, 34 and 35, for example) may be provided in remaining space according to requirements. The 20 compact disk drive 20 has a circuit control board 22 provided with

controlling electronic components 221. To adapt to the compact flash drive 30 disposed below the compact disk drive 20, the controlling electronic components 221 may be disposed at a bottom rear portion of the circuit control board 22, or electronic components having smaller 5 volumes may be adopted.

At a position corresponding to the aperture 43, the flash card reader 30 is provided with a driving device 33 for MS / CF / MD / SD / MMC / SM / MD / XD / PCMCIA cards, and the aperture 43 are provided based upon type and quantity of the driving device 33. In addition, the flash card 10 reader 30 similarly has a control circuit board 31 provided with controlling electronic components 311. Volumes of these electronic components 311 are not at all large, and therefore difficulties regarding designing are not incurred.

Other coordinated components such as earphone sockets 23, a 15 volume tuner 24, a control button 25, an indication lamp 26, an indication lamp 36 for indicating operations of the compact flash drive 30 are arranged at other appropriate positions on the panel 40.

Conclusive from the above, the housing of the compact disk player according to the invention is capable of accommodating a compact flash 20 card reader, and thus effectively reduces materials and lowering

production cost. Moreover, the invention has a reduced volume for easy portability, and also offers economical values by decreasing purchasing expenses for consumers. It is of course to be understood that the embodiment described herein is merely illustrative of the 5 principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.